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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/417,332	10/13/1999	ROBERT BEDICHEK	TRANS09	7303

7590 02/13/2004

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EXAMINER

ELLIS, RICHARD L

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 02/13/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Handwritten signature

# Office Action Summary

Application No.

09/417,332

Applicant(s)

BEDICHEK ET AL.

Examiner

Richard Ellis

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

1. Claims 1-9 remain for examination. Claims 14-20 are newly presented for examination. Claims 10-13 have been withdrawn as directed to a non-elected invention.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.
3. The following is a quotation of the first paragraph of 35 USC 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. New claims 14-15 are rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Newly presented claims 14-15 claim either an exception which results from speculative execution of a branch instruction in a target application (claim 14) or speculatively translating based on a likelihood of a branch being taken (claim 15). However, the specification makes only one mention of speculation in any form, that being the one mention on pg. 14 lines 1-4 where the specification states:

By utilizing these statistics, a particular sequence of instructions may be speculatively considered to be a super-block after being executed a significant number of times. (pg. 14, lines 1-4).

This one instance of the use of speculation in any form is related to consideration of whether a particular block may or may not be considered a "super-block" due to having been executed some number of times. It does not relate in any way to the speculative execution of a branch instruction generating an exception, nor does it relate in any way to speculatively performing a translation. Accordingly, it is not clear that at the time the application was filed, the inventors had possession of the newly claimed subject matter.

5. New claims 14-15 rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As detailed in the previous paragraph, the specification provides no teachings nor

support in any way for the newly claimed aspects of claims 14-15. Accordingly, because the specification contains no teachings for these claims, it can not possibly provide enablement for those same said features.

6. The amendment filed December 18, 2003 is objected to under 35 USC § 132 because it introduces new matter into the specification. 35 USC § 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the entire contents of new claims 14 and 15, as detailed above.

Applicant is required to cancel the new matter in the response to this Office action.

7. The drawings are objected to under 37 CFR § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the exception generation from speculative execution of a branch instruction and the speculative translation of target instructions into host instructions based on the likelihood of a branch being taken must be shown or the feature canceled from the claim. No new matter should be entered.

8. Claims 17-18 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8.1. The scope of meaning of the following terms are unclear:

8.1.1. "a branch of target instructions" claim 17; The use of the word "of" in this context with a plural "instructions" is not only grammatically incorrect, but also does not make any sense.

9. Claims 1-5 and 8-9 are rejected under 35 USC 102(e) as being anticipated by Krishnaswamy et al., U.S. Patent 6,308,318.

10. Claims 6-7 are rejected under 35 USC § 103 as being unpatentable over Krishnaswamy et al., as applied to claims 1-5 and 8-9.

Krishnaswamy et al. was cited as a prior art reference in paper number 4, mailed May 13, 2003.

11. The rejections are respectfully maintained and incorporated by reference as set forth in the last office action, paper number 4, mailed May 13, 2003.
12. Applicant's arguments filed December 8, paper number 2003, have been fully considered but they are not deemed to be persuasive.
13. In the remarks, applicant argues in substance:
  - 13.1. That: "Applicants respectively assert that this [Krishnaswamy et al.'s manner of operation] is completely different from the rollback mechanism recited in the claimed invention. As explicitly recited in the independent claims of the present invention, exceptions are responded to by rolling back to a point in execution, not by continuing forward in the execution (e.g., until some GAR point is reached, as in Krishnaswamy)."

This is not found persuasive because applicant is importing limitations from the specification into the claim language which are not explicitly stated therein, which is improper:

"Claimed subject matter, not the specification, is the measure of invention. Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art." *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11,15 (CCPA 1978).

"It is the claims that measure the invention." *SRI Int'l v. Matshshita Elec. Corp.*, 775 F.2d 1107, 1121, 227 USPQ 577, 585 (Fed. Cir. 1985) (en banc).

"The invention disclosed in Hiniker's written description may be outstanding in its field, but the name of the game is the claim." *In re Hiniker Co.*, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998).

"[A]s an initial matter, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997).

"limitations appearing in the specification will not be read into the claims, and ... interpreting what is meant by a word in a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper'." *Intervet Am., v. Kee-Vet Labs.*, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989)(citation omitted).

"it is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in the claim, ... this is not to be confused with adding an extraneous limitation appearing in the specification, which is improper. By 'extraneous,' we mean a limitation read into a claim from the specification wholly apart from any need to interpret ... particular words or phrases in the claim." *In re Paulsen*, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (citation omitted).

In the present situation, applicant is importing additional limitations regarding the "rollback" aspect of the claims. In claim 1, the use of "rollback" is as follows:

"by rolling back to a point in execution at which correct state of a target processor is known"

This definition states that what occurs during "rolling back" is that "a point ... at which correct state ... is known". The claim language places no limitation as to how much "rolling back" must occur, such that any amount, no matter how large or small, including "rolling back" to the current instruction is encompassed within the boundaries of the claim. The only requirement is that it be a point at which correct state is known. In Krishnaswamy et al., the system "rolls back" the current instruction to obtain known state, and then begins interpretation from that "roll back" point (the current instruction) to properly process from the exception. If applicant wishes the specification limitation of returning to an earlier point in execution of the instruction stream be present in the claim, then applicant should amend the claim to explicitly include that limitation.

13.2. That: "Furthermore, Applicants respectively assert that the exceptions disclosed in Krishnaswamy are different than the exceptions of the claimed invention."

This is not found persuasive because to the extent that applicant has claimed his own exceptions, they are claimed generically as "exceptions" without any limiting claim language. If applicant wishes his particular exceptions that he believes to be different from Krishnaswamy et al. to be considered in the claims, he again should amend the claim language to include particular limitations limiting the claimed "exceptions" to being only those particular exceptions he believes differ from Krishnaswamy et al.

14. New claims 14-20 are rejected under 35 USC § 103 as being unpatentable over Krishnaswamy et al., U.S. patent 6,308,318, as applied to claims 1-9, supra., and further in view of Lethin et al

Lethin et al. was cited as a prior art reference in paper number 4, mailed May 13, 2003.

15. As to claims 16 and 19, Krishnaswamy et al. did not teach collecting statistics

regarding the execution of sequences of target instructions which are executed. However, Lethin et al. taught collection of statistics relating to the number of times a particular code block was executed (col. 5 lines 9-21).

16. As to claim 17, Krishnaswamy et al. in view of Lethin et al. taught that the statistics included the number of times a branch of [sic] target instructions have executed (Lethin et al. at col. 5 lines 10-12).
17. As to claims 14-15, 18, and 20, Krishnaswamy et al. in view of Lethin et al. taught speculatively translating target instructions into host instructions based on a likelihood of a branch being taken (Lethin et al. at col. 5 lines 20-29). As this claim is best understood, considering that applicant has no support for the literal aspect claimed, the speculative translation is being interpreted as that defined at pg. 14 lines 1-4 of the specification where "speculative" simply means that the block of instructions is considered as a candidate for translation. When using this definition, Lethin et al. is considering the block as a candidate for translation due to it's statistics increasing past some threshold (col. 5 lines 9-29 and col. 20 lines 21-59).
18. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the teachings of Lethin et al. into the system of Krishnaswamy et al. because of Lethin et al.'s teaching that using a statistics gathering system to count the number of times a particular target segment of code is executed allows for translation of those segments that are executed often (col. 20 lines 30-31) while preventing overloading or underloading of the translation system at the same time (col. 20 lines 36-56).
19. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED


STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

20. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (703) 305-9690. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (703) 305-9712. The fax phone number for the USPTO is: (703)872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Richard Ellis  
February 12, 2004



**RICHARD L. ELLIS**  
**PRIMARY EXAMINER**